JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah

Department of Natural Resources

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas & Mining

JOHN R. BAZA
Division Director

October 17, 2005

CERTIFIED RETURN RECEIPT
7002 0510 0003 8603 2151

Bruce Mitchell
Sawtooth Stone Supply, LLC
P.O. Box 49
Oakley, Idaho 83346

Subject: Initial Review of Notice of Intention to Commence Large Mining Operations, Sawtooth Stone Supply, LLC, Sawtooth Stone Quarry #1, M/003/067, Box Elder County, Utah

Dear Mr. Mitchell:

The Division has completed our review of your draft Notice of Intention to Commence Large Mining Operations for the Sawtooth Stone Quarry #1, located in Box Elder County, Utah, which was received August 26, 2005. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. **Address only those items requested in the attached technical review** by sending replacement pages of the original mining notice using redline and strikeout text. After the notice is determined technically complete, we will require you provide two clean copies of the complete and corrected plan. Upon final approval, we will return one copy stamped "approved" for your records. Please provide a response to this review by November 30, 2005.

The Division will suspend further review of the Sawtooth Stone Quarry Notice of Intention until your response to this letter is received. If you have any questions in this regard please contact me or Lynn Kunzler. If you wish to discuss this review, please contact us. Thank you for your cooperation in completing this permitting action.

Sincerely,

Susan M White

Susan M. White
Mining Program Coordinator

SMW:LK:jb
Attachment: Review
cc: David Ryzak
O:\M003-BoxElder\M0030067-Sawtooth Stone\final\LMO-review-10172005.doc

INITIAL REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Sawtooth Stone Supply
Sawtooth Stone Quarry #1

M/003/067
October 17, 2005

R647-4-105 - Maps, Drawings and Photographs

The plan states Map E has been drawn to show a maximum development of 4 benches totaling 60'. Cross-Section A-A' shows that there are 13 benches totaling ~120 feet. Cross-section A-A' also shows that the quarry depth will average 60'. Please clarify the ultimate quarry depth. (DJ)

The cross-sections do not differentiate between the initial permit disturbance of 8.2 acres and the ultimate pit disturbance of 14.2 acres. Please modify the sections to show the disturbances associated with each phase of the operation. (DJ)

R647-4-106 - Operation Plan

106.3 Estimated acreages disturbed, reclaimed, annually.
Map G indicates that the ultimate mining activity on the eastern edge of the quarry will impact areas right up to the property line. There should be a setback from the property line to assure that mining on this property does not impact any areas not under Sawtooth Stone's control. A minimum of 50' setback should be left between any mining activity and the property line. (DJ)

106.5 Existing soil types, location, amount
Please show the approximate location of the proposed disturbed area on the soils map. It appears that the proposed disturbance would be in map unit #s 58 and 59, yet only a partial description of map unit # 58 is provided. Please provide complete description of all soil types that are within these two map units. (LK)

Current plans are for salvaging an estimated 1,940 cu. yds. of soil. This is in apparent conflict with the depth of soil described in the soil survey. Soils from the Broad Canyon and Parkay Families should provide in excess of one foot of salvageable soil material. It is also inferred that the original topsoil variance is being applied to the entire site. This variance was only for the area along the ridgeline (rock outcrop area) of the original 5-acre permit, where soils were very sparse to non-existent (probably the Eyre Family Soils - to which no description is given in the Notice). A request to extend this variance to additional area will need to be made (please include all information required for the variance request). Please provide a more detailed soil map of the permit area which identifies the areas where the various soil families are located. (LK)

The soil analysis from the lab is inconsistent with the soil survey and vegetation description. A pH of 4.42 is very acidic (not mildly or moderately alkaline as the soil description states). Very few plant species could grow or survive with this level of acidity. With an Organic content of 7.5%, one would also expect more than the estimated 40% ground cover and more available nitrogen. It is recommended that the soil analysis be verified by the lab, or another sample should be run. Also, the original soil variance identified fines and subsoil would be used and amended as necessary to support vegetation. A soil analysis of this material is needed as well. (LK)

106.6 Plan for protecting & redepositing soils
Please see the attached seed mix for topsoil protection. (LK)

106.7 Existing vegetation - species and amount
The operator's estimate of 40% ground cover for existing vegetation is low - neighboring quarries have reported 60 - 80% ground cover. From observations made during inspections, it is expected that the vegetation cover on your site would be in the upper portion of this range. A vegetation survey will be required. This will need to be completed during late June - July of next year. It is unlikely that the Division will be able to do this survey as you have requested. (LK)

106.8 Depth to groundwater, extent of overburden, geology
It appears from photos that there is groundwater at or near the surface at times of the year and this resource need to be mentioned and discussed in the plan where currently it states the only water resource (a spring) is 2500 feet away. (TM)

106.9 Location & size of ore, waste, tailings, ponds
The plan states additional waste dumps will be located along most of the length of the planned enlargement to Pit #1. See Map D & E. There are not additional dumps shown on Map D & E. Please correct this reference, no additional dumps are shown on any of the maps included in the application. (DJ)

R647-4-107 - Operation Practices

107.1 Public safety & welfare
107.1.15 Constructing berms, fences, etc. above highwalls
The plan state the owner does not plan to take equipment on the slope above the last created highwall. If the owner plans on leaving the last highwall without any attempt to reduce the slope then it will be necessary for him to place berms or fences above this feature. (DJ)

107.2 Drainages to minimize damage
Please show how the dumps will not encroach on the natural drainage. It appears from the plan and photos of the site that this has already occurred. Please provide a map showing the final location of the dumps, so a determination can be made regarding the impact to the drainage. (TM)

107.3 Erosion control & sediment control
Please show how sediment and erosion will be handled from the dump outslopes during operation. This can be provided with both a narrative in the plan and the location of nay controls shown on a map. (TM)

107.5 Suitable soils removed & stored
Refer to comments under R647-4-106.5. (LK)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems
From the appearance of photos taken in early summer, surface water was present on the southwest corner of the dump. It is apparent that the dump is encroaching on the drainage and plans need to be presented to protect this resource. It was also observed from the map the stone yard and worker's camp borders this drainage as well and must be keep a minimum of a fifty feet from the drainage and protection provided to prevent disruption of the natural drainage course. (TM)

109.3 Impacts on existing soils resources
Until the additional soil information is provided (see R647-4-106.5), this section cannot be fully evaluated. (LK)

109.4 Slope stability, erosion control, air quality (fugitive dust control plan), safety
Please provide plans on how fugitive dust created by this operation will be controlled, including along the access road between the mine and the county road. (LK)

R647-4-110 - Reclamation Plan

110.1 Current & post mining land use
The current and post mining land use has been identified as grazing and wildlife habitat. In addition the operator has indicated an alternative post mining land use for wind generation sites for wind turbines. Before the Division can approve this alternative use, or allow structures and or facilities (i.e. pads and access roads) to remain for this use, the operator will need to demonstrate the feasibility of this land use (i.e. obtain the necessary zoning and building permits, etc. which would be done near the end of mining operations). At this time, please plan to reclaim all areas, and to restore/reclaim improved roads to their pre-mining 10-foot width. (LK)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed
In viewing the cross-sections supplied with the application the final highwall is in very close proximity to the property boundary. As stated previously a minimum of 50 foot set-back should be left between any highwalls and the property boundary. If leaving the highwalls is approved, safety berms will need to be placed in the area between this feature and the property line. (DJ)

In order to leave a ~60 foot highwall at a slope greater that 45 degrees, the owner will need to apply for a variance to leave this feature. A demonstration that this highwall will exhibit long term stability will be needed. (DJ)

110.5 Revegetation planting program
Please identify the depth and spacing of the ripper teeth for seedbed preparation. (LK)

Please see the attached seed mix for revegetation. However, based on results of a vegetation survey, this seed mix may need to be revised. (LK)

The plan states that if fertilizer is required, the cheaper of chemical fertilizer or composted or otherwise partially decomposed cow manure will be incorporated with the soil material. Please note, the topsoil variance for the original mining area required the substitute soil materials (fines) be amended with 10 ton/acre of composted manure. This is still needed for any substitute soil materials. Until the soil analysis is verified, amendments for the salvaged topsoil cannot be determined. However, commercial fertilizer and partially decomposed cow manure is not recommended due to the likelihood of increased weed competition and establishment. (LK)

R647-4-111 - Reclamation Practices

111.1 Public safety & welfare
1.15 Constructing berms/fences above highwalls
Refer to comments under R647-4-107.1 (DJ)

111.3 Erosion & sediment control
When the property is restored the natural drainage pattern needs to be part of this plan. Please show how the dumps will not block this natural drainage when graded to a 3:1 slope and the natural drainage pattern can be maintained. This final dump configuration needs to be shown on a map.(TM)

111.5 Land capable of post mining land use
See comments under R647-4-110.1. (LK)

111.7 Highwalls stabilized at 45 degrees or less
Refer to comments under R647-4-110.2. (DJ)

111.8 All roads & pads reclaimed
The plan states "roads will be left of support a proposed wind turbine operation". Unless the owner presently has permits and plans for this operation, roads being left to support this type of operations will need to be reclaimed at the close of operation. Refer to comments under R647-4-110.1 as well. (DJ)

111.12 Topsoil redistribution

Please provide more detail of how topsoil will be redistributed during reclamation, including average depth of replacement. (LK)

111.13 Revegetation

See comments under R647-4-110.5 (LK)

R647-4-112 - Variance

As stated under R647-4-106.5, the original soil variance applied only to the active mining (quarry) area of the original small mining permit. To apply this variance to additional areas, you will need to provide: The rule for which the variance is requested, The variance requested and a description of the area that would be affected by the variance (show on a map), Justification for the variance, and Alternate methods or measures to be utilized to meet the requirements of the Act. (LK)

Rule R647-4-111 - Highwall Reclamation

Unless the operation can demonstrate long-term stability, highwalls left at slopes greater that 45 degrees will need to be reclaimed. Until a study is submitted to verify this fact, the variance is denied. (DJ)

R647-4-113 - Surety

The surety should reflect reclaiming access roads to a 10- foot width along the entire length of the road back to the Lone Pine Quarry. (DJ)

Reclamation of the side cast access road from the camp to the quarry must be included in the surety calculations. (DJ)

The ripping to the depth of 2 feet of the stone yard and camp area should have been calculated at $710/acre. The unit cost for this entry was an error in the original surety calculation sheet. (DJ)

Fertilization costs should be shown using composted manure. (DJ)

Attachment: Seed mixes
For topsoil stabilization
For final revegetation

Recommended Species List
For

FINAL REVEGETATION

Sawtooth Stone Company, LLC.
Sawtooth Stone Quarry #1
S/003/067

Common Name	Species Name	*Rate lbs/ac (PLS)
Thickspike wheatgrass	Agropyron dasystachum	1.5
Bluebunch wheatgrass	*Agropyron spicatum*	1.5
Intermediate wheatgrass	*Agropyron intermedium*	1.0
Mountain brome	*Bromus marginatus*	1.5
Basin Wildrye	*Elymus cinereus*	2.0
Pacific aster	*Aster chilenis*	0.2
Western yarrow	*Achillea millefolium*	0.1
Rocky mountain penstemon	*Penstemon strictus*	0.5
Small burnet	*Sanguisorba minor*	1.0
Mountain big sagebrush	*Artemisia tridentata vaseyana*	0.1
Serviceberry	*Amelanchier alnifolia*	1.0
Forage kochia	*Kochia prostrata*	0.5
Snowberry	*Symphoricarpos oreophilus*	1.0
	Total	11.9 lbs/ac

* Recommended broadcast seeding rate.

Prepared 10/17/2005

Recommended Species List
for

TOPSOIL STOCKPILE STABILIZATION

Sawtooth Stone Company, LLC.
Sawtooth Stone Quarry #1
S/003/067

Common Name	Species Name	*Rate lbs/ac (PLS)
Thickspike wheatgrass	*Agropyron dasystachum*	3.0
'Piute' orchard grass	*Dactylis glomerata 'piute'*	0.5
adac Alfalfa	*Medicago sativa*	1.0
Small burnet	*Sanguisorba minor*	1.5
	Total	6.0 lbs/ac

*Recommended broadcast seeding rate